

CLAIMS

1. An apparatus, comprising:
 - a first device to transmit at a first frequency;
 - a first PN generator to generate a first PN sequence at a first offset;
 - a first spreader to receive and spread a first pilot data with the first PN sequence;
 - a second device to transmit at a second frequency;
 - a second PN generator to generate a second PN sequence at a second offset; and
 - a second spreader to receive and spread a second pilot data with the second PN sequence, wherein the first device is positioned to transmit over at least a portion of the same geographic area as the second device.
2. The apparatus of claim 1, wherein the first frequency uses a different CDMA format than the second frequency.
3. The apparatus of claim 2, wherein the first frequency is generated from a first CDMA format chosen from the group consisting of PCS, IS-95, IS-98, WCDMA, UTRA, IS-2000 and CDMA 2000, the second frequency is generated from a second CDMA format chosen from the group consisting of PCS, IS-95, IS-98, WCDMA, UTRA, IS-2000 and CDMA 2000 and wherein, the first CDMA format is different from the second CDMA format.
4. The apparatus of claim 1, wherein the first PN sequence is the reverse of the second PN sequence.
5. The apparatus of claim 1, wherein the first PN generator is capable of generating a sequence based on characteristic polynomials comprising:

$$P_{I,1} = x^{15} + x^{13} + x^9 + x^8 + x^7 + x^5 + 1 \text{ , and}$$

$$P_{Q,1} = x^{15} + x^{12} + x^{11} + x^{10} + x^6 + x^5 + x^4 + x^3 + 1 .$$

6. The apparatus of claim 1, wherein the second PN generator is capable of generating a sequence based on characteristic polynomials comprising:

$$P_{I,2} = x^{15} + x^{10} + x^8 + x^7 + x^6 + x^2 + 1 \text{ , and}$$

$$P_{Q,2} = x^{15} + x^{12} + x^{11} + x^{10} + x^9 + x^5 + x^4 + x^3 + 1 \text{ .}$$

7. The apparatus of claim 1, further comprising a third device to transmit at a third frequency comprising a third PN generator to generate a third PN sequence at a third offset and a third spreader to receive and spread a third pilot data with the third PN sequence.

8. An apparatus, comprising:

a plurality of devices to transmit a plurality of signals each using a different CDMA format;
means for generating a plurality of pilot signals from uncorrelated PN sequences for the plurality of signals.

9. The apparatus of claim 8 wherein means for generating the plurality of pilot signals is based on the polynomials comprising:

$$P_{I,1} = x^{15} + x^{13} + x^9 + x^8 + x^7 + x^5 + 1 \text{ , and}$$

$$P_{Q,1} = x^{15} + x^{12} + x^{11} + x^{10} + x^6 + x^5 + x^4 + x^3 + 1 \text{ .}$$

10. The apparatus of claim 8 wherein means for generating the plurality of pilot signals is based on the polynomials comprising:

$$P_{I,2} = x^{15} + x^{10} + x^8 + x^7 + x^6 + x^2 + 1 \text{ , and}$$

$$P_{Q,2} = x^{15} + x^{12} + x^{11} + x^{10} + x^9 + x^5 + x^4 + x^3 + 1 \text{ .}$$

11. The apparatus of claim 8, wherein means for generating the plurality of pilot signals includes at least one pilot signal that is gated in time.